

WATERBODY DATA FORM

ENSR | AECOM

☒ Centerline ☐ Re-Route ☐ Access Road ☐ Ancillary Facility ☐ Other:

Feature ID #: S7ATR002

Stream/Waterbody Name (if known): COTTONWOOD CREEK

Associated Wetland ID #:

Date: 7/9/08		Project Name & No.: Keystone XL-10623-007-803A		Milepost: 541.7	
Investigators: ROBSON/FREBOROUGH		State/County: SD/ TRIPP		Quad Name: MOUTH MISSION CREEK	
Logbook No.: 2	Logbook Page No.: 54	Tract No.: ML-SD-TR-10190.000, 10200		Picture No.: S7ATR002_E,2W,3S	
PHYSICAL ATTRIBUTES					
Waterbody Sketch Plan					
Please include: Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor					
Angle of Crossing at Centerline: _____					
Waterbody Type	<input type="checkbox"/> Lake <input type="checkbox"/> Pond <input type="checkbox"/> Borrow Pit <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ag. Ditch <input type="checkbox"/> Other:				
Stream Flow	<input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow <input type="checkbox"/> Very Slow <input type="checkbox"/> None	Flow type	<input type="checkbox"/> Perennial (Flows year round) <input type="checkbox"/> Seasonal (Continuous flow ≥ 3 months) <input checked="" type="checkbox"/> Intermittent (Flows <3 months) <input type="checkbox"/> Ephemeral (Flows only in response to rainfall)		
Subsurface Flow?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown	Direction of Flow where it crosses CL: SE (N, NE, E, SE, S, SW, W, NW)			
OHWM Width (ft.):	20'	Sinuosity	<input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering		
Stream Width (ft.)	Top of Bank (at crossing location): 25'		Water Surface (at crossing location):		
Stream Depth (in.)	<input type="checkbox"/> 0-3 <input type="checkbox"/> 3-6 <input type="checkbox"/> 6-12 <input type="checkbox"/> 12-18 <input checked="" type="checkbox"/> 18-24 <input type="checkbox"/> 24-36 <input type="checkbox"/> 36-48 <input type="checkbox"/> 48-60 <input type="checkbox"/> 60+				
OHWM Indicator	<input checked="" type="checkbox"/> Clear natural line on bank <input type="checkbox"/> Wrack line <input type="checkbox"/> Shelving <input type="checkbox"/> Scour <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Bent, matted or missing vegetation <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Water staining <input type="checkbox"/> Soil character changes <input type="checkbox"/> Sediment deposition <input type="checkbox"/> Sediment sorting <input type="checkbox"/> Litter and debris <input type="checkbox"/> Leaf litter disturbed <input type="checkbox"/> Other:				
Bank Height (ft.) (looking downstream)	Left:	<input type="checkbox"/> 0-2 <input type="checkbox"/> 2-4 <input checked="" type="checkbox"/> 4-6 <input type="checkbox"/> 6-8 <input type="checkbox"/> 8+			
	Right:	<input type="checkbox"/> 0-2 <input type="checkbox"/> 2-4 <input type="checkbox"/> 4-6 <input checked="" type="checkbox"/> 6-8 <input type="checkbox"/> 8+			
Bank Slope (looking downstream)	Left:	<input type="checkbox"/> 4:1 <input type="checkbox"/> 3:1 <input type="checkbox"/> 2:1 <input type="checkbox"/> 1:1 <input checked="" type="checkbox"/> Vertical			
	Right:	<input type="checkbox"/> 4:1 <input type="checkbox"/> 3:1 <input type="checkbox"/> 2:1 <input type="checkbox"/> 1:1 <input checked="" type="checkbox"/> Vertical			

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QUALITATIVE ATTRIBUTES

Water Appearance (check all that apply)	Clear <input type="checkbox"/> Turbid <input checked="" type="checkbox"/> Sheen on surface <input type="checkbox"/> Floating algal mats <input type="checkbox"/> Water Color: Slightly Turbid <input type="checkbox"/> Very Turbid <input type="checkbox"/> Greenish color <input type="checkbox"/> Obvious surface scum <input type="checkbox"/> Other:				
Stream Substrate %	Silts Cobbles Bedrock Sands Gravel X Concrete Muck Vegetation: Other: X Explain: CLAY				
Aquatic Habitats (check all that apply)	Sand Bar <input type="checkbox"/> Gravel Riffles <input type="checkbox"/> In-stream emergent plants: <input type="checkbox"/> Gravel Bar <input type="checkbox"/> Deep Pools <input type="checkbox"/> In-stream submerged plants: <input type="checkbox"/> Mud Bar <input checked="" type="checkbox"/> Bank root systems <input checked="" type="checkbox"/> Fringing Wetlands: <input type="checkbox"/> Undercut Banks <input type="checkbox"/> Overhanging trees/shrubs <input checked="" type="checkbox"/>				
Aquatic Organisms Observed (check all that apply)	Waterfowl <input type="checkbox"/> Fish (adult) <input type="checkbox"/> Turtles <input type="checkbox"/> Other: Snakes <input type="checkbox"/> Fish (juvenile) <input type="checkbox"/> Frogs <input type="checkbox"/> Invertebrates:				
Riparian Zone	Width of natural vegetation zone from edge of active channel out onto flood plain (FT): 20 Circle vegetative layers: trees <input type="checkbox"/> shrubs <input checked="" type="checkbox"/> herbs <input checked="" type="checkbox"/> <input type="checkbox"/> Significant bare areas within riparian zone <input type="checkbox"/> Evidence of non-buffered concentrated flows				
Tributary is	<input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial (Man-Made) <input type="checkbox"/> Manipulated				
Channel Condition:	Channelization or Braiding <input type="checkbox"/> Unnatural straightening <input type="checkbox"/> Downcutting <input checked="" type="checkbox"/> Dikes/Berns <input type="checkbox"/> Excessive bank erosion <input checked="" type="checkbox"/> Other				
Disturbances	Livestock access to riparian zone <input checked="" type="checkbox"/> Manure in stream or on banks <input type="checkbox"/> Waste discharge pipes present <input type="checkbox"/> Other:				

Describe Habitat Characteristics, Aquatic & Terrestrial Diversity:	Habitat ID No.:
SNOWBERRY, CREASWOOD (?) ALONG BANKS AND ON BANK SLOPES SEDGE ALONG LEFT BANK (CAREX SPECIES)	

Comments (e.g. pipeline crossing angle, construction constraints, erosion potential, existing disturbances, and meanders)
CL CROSSES STREAM AT A NEAR RIGHT ANGLE
STREAM QUALITY High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low <input type="checkbox"/>